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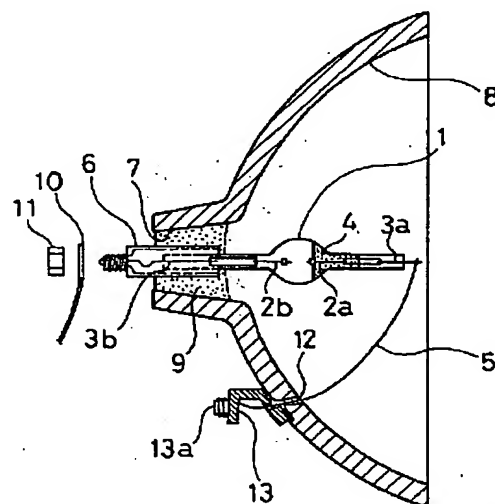
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(54) 【考案の名称】 ショートアークメタルハライドランプ装置

(57) 【要約】

【目的】 反射鏡を再利用できるように、ランプを反射鏡から容易に取り外し可能にしたショートアークメタルハライドランプ装置を提供する。

【構成】 ショートアークメタルハライドランプ1の両端に導出したワイヤ3a、3bにネジ付口金6とニッケルリード線5を接続し、反射鏡8の底部に設けられ反射鏡8の開口部側に向かってテーパ状に形成した取り付け孔7にネジ付口金6を無機質接着剤9で固着して、ショートアークメタルハライドランプ1を取り囲むようにして反射鏡8を取り付け、ニッケルリード線5を反射鏡8の外側に導出して、金属端子13の角部13aに巻き付け固着し、ショートアークメタルハライドランプ装置を構成する。



- | | |
|-----------------------|------------|
| 1 : ショートアークメタルハライドランプ | 9 : 無機質接着剤 |
| 5 : ニッケルリード線 | 10 : 外部端子 |
| 6 : ネジ付口金 | 11 : ナット |
| 7 : 取り付け孔 | 13 : 金属端子 |
| 8 : 反射鏡 | |

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【実用新案登録請求の範囲】

【請求項 1】 ショートアークメタルハライドランプの両端に導出したワイヤにネジ付口金とリード線を接続し、反射鏡の底部に設けた取り付け孔にネジ付口金を固着してショートアークメタルハライドランプを取り囲むように反射鏡を取り付け、リード線を反射鏡の外側に設けた端子台へ接続してなるショートアークメタルハライドランプ装置において、反射鏡の底部に設けた前記取り付け孔を、反射鏡の開口部側に向かって広がるテーパ状に形成し、且つ前記リード線を端子台に機械的な圧接により接続固定したことを特徴とするショートアークメタルハライドランプ装置。

【請求項 2】 前記ネジ付口金は、無機質接着剤により反射鏡の底部取り付け孔に固着されていることを特徴とする請求項 1 記載のショートアークメタルハライドランプ装置。

【請求項 3】 前記ネジ付口金の反射鏡の底部取り付け孔への固着強度は 7kgf ～ 40kgf であることを特徴とする請求項 1 又は 2 記載のショートアークメタルハライドランプ装置。

【請求項 4】 前記請求項 1 ～ 3 のいずれか 1 項に記載のショートアークメタルハライドランプ装置を光源として用いた液晶プロジェクタ装置。

【図面の簡単な説明】

【図 1】 本考案に係るショートアークメタルハライドラ

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ンプ装置の一実施例を示す断面図である。

【図 2】 図 1 に示した実施例の変形例の一部を示す斜視図である。

【図 3】 ショートアークメタルハライドランプ装置を用いた液晶プロジェクタ装置を示す概略構成図である。

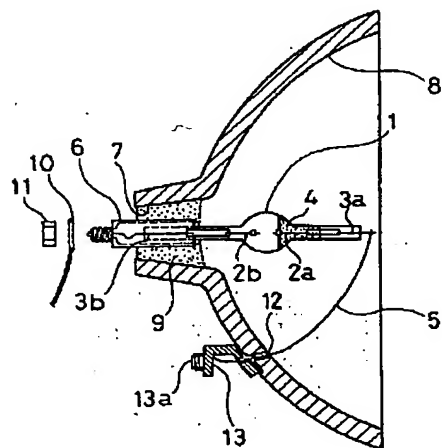
【図 4】 従来のショートアークメタルハライドランプ装置の構成例を示す断面図である。

【図 5】 従来のショートアークメタルハライドランプ装置の他の構成例を示す断面図である。

【符号の説明】

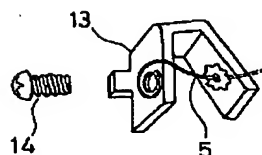
- 1 ショートアークメタルハライドランプ
2 a, 2 b 電極
3 a, 3 b ワイヤ
4 反射兼保温膜
5 ニッケルリード線
6 ネジ付口金
7 取り付け孔
8 反射鏡
9 無機質接着剤
10 外部端子
11 ナット
12 小孔
13 金属端子
14 締め付けネジ

【図 1】

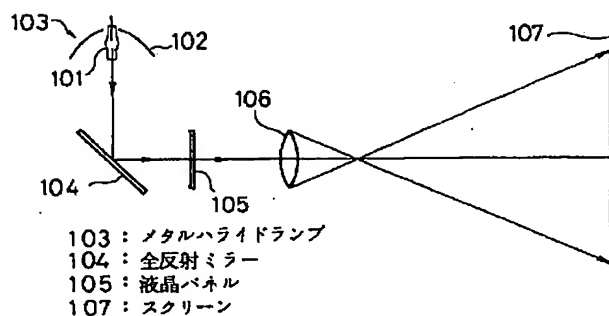


- 1 : ショートアークメタルハライドランプ
5 : ニッケルリード線
6 : ネジ付口金
7 : 取り付け孔
8 : 反射鏡
9 : 無機質接着剤
10 : 外部端子
11 : ナット
13 : 金属端子

【図 2】



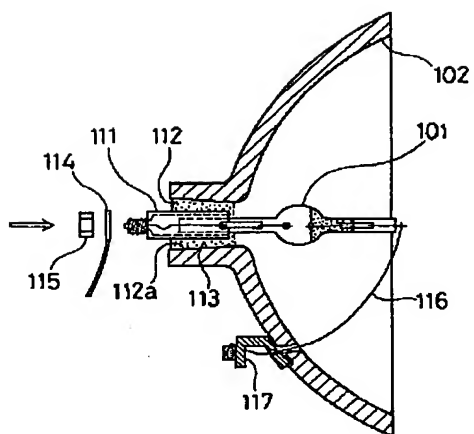
【図 3】



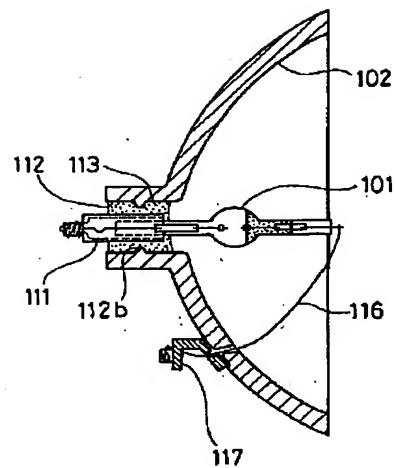
- 103 : メタルハライドランプ
104 : 全反射ミラー
105 : 液晶パネル
107 : スクリーン

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【图 4】



【图 5】



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【考案の詳細な説明】**【0001】****【産業上の利用分野】**

この考案は、液晶パネルを有する液晶プロジェクタ装置の光源として用いるショートアークメタルハライドランプ装置に関し、ランプの寿命後に、ランプを反射鏡から取り外し、反射鏡を再利用できるようにしたショートアークメタルハライドランプ装置に関する。

【0002】**【従来の技術】**

近年、アクティブマトリックスの液晶パネルと光学系を用いた液晶プロジェクタ装置を利用して、大画面の映像を簡便に楽しむことが流行しつつある。この液晶プロジェクタ装置の光源としては、ハロゲン電球やキセノンランプに比較して、その色再現性の良さ、発光効率の高さ、自由に色温度が選べる等の特徴から、ショートアークメタルハライドランプ装置が主流となりつつある。

【0003】

次に、かかるショートアークメタルハライドランプ装置を光源として用いた液晶プロジェクタ装置の構成例を図3に基づいて説明する。図3において、101は石英容器製の発光管からなるショートアークメタルハライドランプで、両端に電極を備え、水銀と始動用ガスとしてアルゴンの他に、例えば沃化ディスプロシウム、沃化ネオジウム及び沃化セシウムなどの金属ハロゲン化合物が封入されている。そして、このショートアークメタルハライドランプ101を取り囲むようにして、硬質ガラスからなりコールドミラー膜を備えた反射鏡102を、その中心軸がショートアークメタルハライドランプ101の軸心とほぼ一致するように取り付け、ショートアークメタルハライドランプ装置103を構成している。そして、このように構成したショートアークメタルハライドランプ装置103を下向きに鉛直方向に配置し、全反射ミラー104、液晶パネル105、投影レンズ106を介してスクリーン107に投影するようにして、液晶プロジェクタ装置を構成している。

【0004】

従来、このような反射鏡を備えたショートアークメタルハライドランプ装置は

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、図4に示すように、ショートアークメタルハライドランプ101の一端にネジ付口金111を設け、この口金部分を反射鏡102の底部に設けた取り付け孔112に無機質接着剤113を用いて固着し、該口金111のネジ部には電力供給用の外部端子114をナット115で締め付け固定するようにしている。その際、ナット115の締め付けは、エアドライバ等で図4で矢印→で示す方向から押し付けながら行われるが、その押圧力に抗するため、反射鏡102の底部に設けた取り付け孔112には、該取り付け孔112の外端部から反射鏡102の底部へ向かって狭くなる、すなわち反射鏡102の開口部側に向かって狭くなるテーパ面112aを形成したり、あるいは、図5に示すように、取り付け孔112の内面に突起112bを設けて、ナット締め付けに対して強固となる対策が施されている例が多い。またショートアークメタルハライドランプ101の他端にはニッケルリード線116が取り付けられており、該リード線116は反射鏡102の外側に設けられた金属端子台117に、溶接により固着されている。

【0005】

【考案が解決しようとする課題】

ところで、上記構成の反射鏡を備えたショートアークメタルハライドランプ装置において、近年、資源の再利用化を計るため、ランプの寿命後に、反射鏡よりランプを取り外し、高価な反射鏡を再利用する試みがなされている。

【0006】

しかしながら、上記構成のショートアークメタルハライドランプ装置においては、ランプのネジ付口金部分は反射鏡の取り付け孔に、外部端子の締め付け強度に対抗できるように強固に取り付けられており、そのため、寿命が過ぎて不良となったショートアークメタルハライドランプを反射鏡より取り外すことは困難であり、無理に取り外そうとしてショートアークメタルハライドランプを反射鏡のフランジ側から押し出すと、ランプが破壊したりして危険である。またニッケルリード線も金属端子台に溶接により強固に固着されており、取り外しは困難であり、したがって反射鏡の再利用化を計ることは困難であった。

【0007】

本考案は、従来のショートアークメタルハライドランプ装置における上記問題

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点を解消するためになされたもので、ショートアークメタルハライドランプと反射鏡との分離が容易で、容易に反射鏡の再利用化を計ることができるショートアークメタルハライドランプ装置を提供することを目的とする。

【0008】

【課題を解決するための手段及び作用】

上記問題点を解決するため、本考案は、ショートアークメタルハライドランプの両端に導出したワイヤにネジ付口金とリード線を接続し、反射鏡の底部に設けた取り付け孔にネジ付口金を固着してショートアークメタルハライドランプを取り囲むように反射鏡を取り付け、リード線を反射鏡の外側に設けた端子台へ接続してなるショートアークメタルハライドランプ装置において、反射鏡の底部に設けた前記取り付け孔を、反射鏡の開口部側に向かって広がるテーパ状に形成し、且つ前記リード線を端子台に機械的な圧接により接続固定するものである。

【0009】

このように構成したショートアークメタルハライドランプ装置においては、反射鏡の底部に設けた取り付け孔は、反射鏡の開口部側に向かって広がるテーパ状に形成されているため、ネジ付口金部分を押圧することにより、ショートアークメタルハライドランプを破壊することなく、容易にショートアークメタルハライドランプを反射鏡より取り外すことができ、またリード線は溶接ではなく機械的な圧接により端子台に固着されているので、容易に端子台より取り外すことができる。したがって、容易に反射鏡の再利用化を計ることが可能となる。

【0010】

【実施例】

次に、実施例について説明する。図1は本考案に係るショートアークメタルハライドランプ装置の一実施例を示す断面図である。図1において、1は石英製発光管からなるショートアークメタルハライドランプで、発光管内には、その両端に電極2a、2bが電極間距離（アーク長）が5mmになるように設けられている。電極2a、2bにはモリブデン製封入箔を介してワイヤ3a、3bが接続されていて、外部から電力が供給されるようになっている。なお発光管内には水銀、アルゴンの他に、沃化ディスプロシウム、沃化ネオジウム、沃化セシウム等の金属

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ハロゲン化物が封入されている。また発光管の、後述の反射鏡の開口部側に位置する電極2 aの周辺部に対応するランプ外表面には、例えば $\text{Al}_2\text{O}_3-\text{SiO}_2$ 混合物などからなる光反射性で且つ耐熱性の白色反射兼保温膜4が塗布形成されている。

【0011】

そして、このように構成したショートアークメタルハライドランプ1は、その両端ワイヤ3 a, 3 bを、それぞれニッケルリード線5とネジ付口金6に接続する。そして、有効直径100mmで焦点距離 $f=13\text{mm}$ の放物面からなり、内面には酸化チタンと酸化珪素とを層状に蒸着した多層膜からなる赤外線透過させ可視光を反射する、いわゆるコールドミラー膜を形成し、底部には開口部に向かって広がるテーパ状に形成した取り付け孔7を備えた反射鏡8を用意し、前記ショートアークメタルハライドランプ1のネジ付口金6を、前記反射鏡8の取り付け孔7へ挿入し、反射鏡8の光軸とショートアークメタルハライドランプ1の軸心とを一致させ且つ発光部が焦点に位置するように、アルミナシリカを主成分とする無機質接着剤9で固定する。この接着剤9による接着強度は、ネジ付口金6側から押圧した際には、 $25\text{kgf} \sim 35\text{kgf}$ 程度であり、ネジ付口金6に外部端子10をナット11で締め付ける際の締め付けに対し、十分な強度を有するようになっている。

【0012】

また、ショートアークメタルハライドランプ1に取り付けたニッケルリード線5は、反射鏡8に設けた小孔12を通して反射鏡8の外側に導出し、反射鏡8の外側に設けた金属端子13の角部13 aに巻き付き固定するか、あるいは図2に示すように、ニッケルリード線5の端末部を丸めて締め付けネジ14で固定し、ショートアークメタルハライドランプ装置を構成する。

【0013】

このように構成したショートアークメタルハライドランプ装置の寿命テストを行ったところ、ニッケルリード線5を金属端子13へ溶接接続しなくても、動作上何ら問題を生じないことが確認された。また、ランプの寿命を想定し、ショートアークメタルハライドランプ1と反射鏡8の分離実験を行ったところ、反射鏡8のフランジ面を重力方向に対して下向きにして平面台に載置し、ネジ付口金6部

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分をプレス機で押圧したところ、40kg f 程度でショートアークメタルハライドランプ1を反射鏡8から取り外せることが判明した。なお、この際、ニッケルリード線5の端末部は金属端子13より外し直線状に直しておくものとする。

【0014】

そして、ショートアークメタルハライドランプを取り外した反射鏡を再度利用して、新たなショートアークメタルハライドランプを調整して組み合わせ、ショートアークメタルハライドランプ装置を作成し、液晶プロジェクタ装置の光源として用いたところ、何ら問題を生ぜず、反射鏡を有効に再利用できることが確認された。

【0015】

なお、上記実施例では、接着剤の接着強度25kg f ～35kg f 程度としたものを示したが、接着強度が7kg f 以下では、ネジ付口金に外部端子をナットで締め付ける際に、ランプが反射鏡から外れるおそれがあり、また接着強度が40kg f 以上の場合は、ランプを反射鏡より取り外す際に反射鏡が破損するおそれがある。したがって、接着剤の接着強度は7kg f ～40kg f の範囲に設定するのが適切である。

【0016】

【考案の効果】

以上実施例に基づいて説明したように、本考案によれば、反射鏡の底部に設けた取り付け孔を反射鏡の開口部側に向かって広がるテーパ状に形成し、且つリード線を端子台に機械的な圧接により接続固定するようにしたので、寿命末期を迎えたショートアークメタルハライドランプを反射鏡より容易に取り外すことができ、高価な反射鏡を容易に再利用することが可能となる。

Mechanical Translation of Registered Utility Model No. 3004793

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1. This document has been translated by computer. So the translation may not reflect the original precisely.

2. **** shows the word which can not be translated.

3. In the drawings, any words are not translated.

CLAIMS

[Utility model registration claim]

[Claim 1] Lead wire is connected with a mouthpiece. the wire drawn to the both ends of a short arc metal halide lamp -- with a screw -- A reflecting mirror is attached. it prepared in the pars basilaris ossis occipitalis of a reflecting mirror -- attaching -- a hole -- with a screw -- so that a mouthpiece may be fixed and a short arc metal halide lamp may be surrounded In the short arc metal halide lamp equipment which comes to connect lead wire with the terminal block prepared in the outside of a reflecting mirror Short arc metal halide lamp equipment characterized by having formed said installation hole prepared in the pars basilaris ossis occipitalis of a reflecting mirror in the shape of [which spreads toward the opening side of a reflecting mirror] a taper, and carrying out connection immobilization of said lead wire with a pressure welding mechanical to a terminal block.

[Claim 2] with [said] a screw -- the short arc metal halide lamp equipment according to claim 1 characterized by the mouthpiece having fixed to the pars-basilaris-ossis-occipitalis installation hole of a reflecting mirror with minerals adhesives.

[Claim 3] with [said] a screw -- the short arc metal halide lamp equipment according to claim 1 or 2 characterized by the fixing reinforcement to the pars-basilaris-ossis-occipitalis installation hole of the reflecting mirror of a mouthpiece being 7kgf-40kgf.

[Claim 4] Liquid crystal projector equipment using short arc metal halide lamp equipment given in any 1 term of said claims 1-3 as the light source.

DETAILED DESCRIPTION

[Detailed explanation of a design]

[0001]

[Industrial Application]

About the short arc metal halide lamp equipment used as the light source of the liquid crystal projector equipment which has a liquid crystal panel, this design removes a lamp from a reflecting mirror after the life of a lamp, and is related with the short arc metal

halide lamp equipment which enabled it to reuse a reflecting mirror.

[0002]

[Description of the Prior Art]

In recent years, it is in fashion using the liquid crystal projector equipment using the liquid crystal panel and optical system of an active matrix to enjoy the image of a big screen simple. As the light source of this liquid crystal projector equipment, short arc metal halide lamp equipment is becoming in use from the descriptions, like the goodness of that color reproduction nature, the height of luminous efficiency, and a color temperature can be chosen freely as compared with a tungsten halogen lamp or a xenon lamp.

[0003]

Next, the example of a configuration of liquid crystal projector equipment using this short arc metal halide lamp equipment as the light source is explained based on drawing 3. It sets to drawing 3 and is 101. It is the short arc metal halide lamp which consists of an arc tube made from a quartz container, and both ends are equipped with an electrode and metal halogenides other than an argon, such as for example, an iodation dysprosium, iodation neodymium, and a cesium iodide, are enclosed as mercury and gas for starting. And this short arc metal halide lamp 101 Reflecting mirror 102 which consisted of hard glass as enclosed, and was equipped with the cold mirror film That medial axis is the short arc metal halide lamp 101. It attaches so that it may be mostly in agreement with an axial center, and it is short arc metal halide lamp equipment 103. It constitutes. And short arc metal halide lamp equipment 103 constituted in this way It arranges in the direction of a vertical downward, and they are a total reflection mirror 104, a liquid crystal panel 105, and the projection lens 106. It minds and is a screen 107. As it projects, liquid crystal projector equipment is constituted.

[0004]

the short arc metal halide lamp equipment conventionally equipped with such a reflecting mirror is shown in drawing 4 -- as -- short arc metal halide lamp 101 an end -- with a screw -- mouthpiece 111 preparing -- this mouthpiece -- a part -- reflecting mirror 102 it prepared in the pars basilaris ossis occipitalis -- attaching -- hole 112 Minerals adhesives 113 using -- fixing -- the mouth piece 111 External terminal 114 for electric power supplies in the screw section Nut 115 He is trying to bind tight and fix. It is a nut 115 in that case. Although carried out forcing bolting from the direction shown by drawing 4 by an air driver etc. at arrow-head -> in order to resist the thrust -- reflecting mirror 102 it prepared in the pars basilaris ossis occipitalis -- attaching -- hole 112 **** -- This installation hole 112 A heel to reflecting mirror 102 Toward a pars basilaris ossis occipitalis, become narrow, namely, it is a reflecting mirror 102. Form taper side 112a which becomes narrow toward an opening side, or Or as shown in drawing 5, it is the installation hole 112. There are many examples against which the measures which prepare projection 112b in an inside and become firm to nut bolting are taken. Moreover, short arc metal halide lamp 101 In the other end, it is the nickel lead wire 116. It is attached and is this lead wire 116. Reflecting mirror 102 Metal terminal block 117 prepared outside It has fixed by welding.

[0005]

[Problem(s) to be Solved by the Device]

By the way, in short arc metal halide lamp equipment equipped with the reflecting mirror of the above-mentioned configuration, in order to measure reuse-ization of a

resource in recent years, a lamp is removed from a reflecting mirror after the life of a lamp, and the attempt which reuses an expensive reflecting mirror is made.

[0006]

however, the short arc metal halide lamp equipment of the above-mentioned configuration -- setting -- with [of a lamp] a screw -- a mouthpiece -- it be difficult a part to remove the short arc metal halide lamp which it be firmly attach in the installation hole of a reflecting mirror so that the bolting reinforcement of an external terminal may be oppose, therefore the life passed, and became a defect from a reflecting mirror, and the lamp of it destroy and be dangerous, if it tend to remove by force and extrude a short arc metal halide lamp from the flange side of a reflecting mirror Moreover, nickel lead wire had also fixed firmly by welding to the metal terminal block, and removal was difficult, therefore it was difficult to measure reuse-ization of a reflecting mirror.

[0007]

This design was made in order to cancel the above-mentioned trouble in conventional short arc metal halide lamp equipment, and separation with a short arc metal halide lamp and a reflecting mirror is easy, and it aims to let it offer the short arc metal halide lamp equipment which can measure reuse-ization of a reflecting mirror easily.

[0008]

[Means for Solving the Problem and its Function]

Lead wire is connected with a mouthpiece. the wire which drew this design to the both ends of a short arc metal halide lamp in order to solve the above-mentioned trouble -- with a screw -- A reflecting mirror is attached. it prepared in the pars basilaris ossis occipitalis of a reflecting mirror -- attaching -- a hole -- with a screw -- so that a mouthpiece may be fixed and a short arc metal halide lamp may be surrounded In the short arc metal halide lamp equipment which comes to connect lead wire with the terminal block prepared in the outside of a reflecting mirror Said installation hole prepared in the pars basilaris ossis occipitalis of a reflecting mirror is formed in the shape of [which spreads toward the opening side of a reflecting mirror] a taper, and connection immobilization of said lead wire is carried out with a pressure welding mechanical to a terminal block.

[0009]

since [thus,] it attaches and is formed in the constituted short arc metal halide lamp equipment in the shape of [which was prepared in the pars basilaris ossis occipitalis of a reflecting mirror / in which a hole spreads toward the opening side of a reflecting mirror] a taper -- with a screw -- a mouthpiece -- since the short arc metal halide lamp could be easily removed from the reflecting mirror and lead wire has fixed to the terminal block not with welding but with the mechanical pressure welding, without destroying a short arc metal halide lamp by pressing a part, it can remove from a terminal block easily. Therefore, it becomes possible to measure reuse-ization of a reflecting mirror easily.

[0010]

[Example]

Next, an example is explained. Drawing 1 is the sectional view showing one example of the short arc metal halide lamp equipment concerning this design. In drawing 1 , 1 is the short arc metal halide lamp which consists of an arc tube made from a quartz, and it is prepared within luminescence so that electrode 2a and 2b may set it the both ends and

inter-electrode distance (arc length) may be set to 5mm. Wires 3a and 3b are connected to electrode 2a and 2b through the enclosure foil made from molybdenum, and power is supplied from the exterior. In addition, metal halogenides other than mercury and an argon, such as an iodation dysprosium, iodation neodymium, and a cesium iodide, are enclosed within luminescence. Moreover, in the lamp outside surface corresponding to the periphery of electrode 2a located in the opening side of the below-mentioned reflecting mirror of an arc tube, it is $\text{Al}_2\text{O}_3\text{-SiO}_2$. It is the light reflex nature which consists of mixture etc., and spreading formation of the heat-resistant incubation [white reflection-cum-] film 4 is carried out.

[0011]

and the short arc metal halide lamp 1 constituted in this way -- the both-ends wires 3a and 3b -- respectively -- the nickel lead wire 5 and with a screw -- it connects with a mouthpiece 6. And effective diameter It consists of a paraboloid with a focal distance of $f=13\text{mm}$ by 100mm . Make the infrared radiation which becomes an inside from the multilayers which vapor-deposited titanium oxide and oxidation silicon in the shape of a layer penetrate, and reflect the light. Form the so-called cold mirror film and the reflecting mirror 8 which was formed in the shape of [which spreads toward opening] a taper and which attached and was equipped with the hole 7 is prepared for a pars basilaris ossis occipitalis. with [of said short arc metal halide lamp 1] a screw -- so that a mouthpiece 6 may be inserted in the installation hole 7 of said reflecting mirror 8, and the optical axis of a reflecting mirror 8 and the axial center of the short arc metal halide lamp 1 may be made in agreement and a light-emitting part may be located in a focus. An alumina silica is fixed with the minerals adhesives 9 used as a principal component. the bond strength by these adhesives 9 -- with a screw -- the time of pressing from a mouthpiece 6 side -- 25kgf - 35kgf extent -- it is -- with a screw -- it has sufficient reinforcement to bolting at the time of binding the external terminal 10 tight with a nut 11 in a mouthpiece 6.

[0012]

Moreover, the terminal section of the nickel lead wire 5 is rounded off and bound tight, it fixes with a screw 14, and the nickel lead wire 5 attached in the short arc metal halide lamp 1 constitutes short arc metal halide lamp equipment, as it draws on the outside of a reflecting mirror 8 through the stoma 12 prepared in the reflecting mirror 8, and it coils and fixes to corner 13a of the metal terminal 13 prepared in the outside of a reflecting mirror 8 or it is shown in drawing 2.

[0013]

Thus, when the life test of the constituted short arc metal halide lamp equipment was performed, even if it did not carry out welded connection of the nickel lead wire 5 to the metal terminal 13, not producing a problem at all on actuation was checked. moreover, the place which conducted the separation experiment of the short arc metal halide lamp 1 and a reflecting mirror 8 supposing the life of a lamp -- the flange face of a reflecting mirror 8 -- the gravity direction -- receiving -- facing down -- carrying out -- a table -- laying -- with a screw -- a mouthpiece -- when six part was pressed with the press machine, it became clear that the short arc metal halide lamp 1 could be removed from a reflecting mirror 8 with 40kgf extent. In addition, in this case, the terminal section of the nickel lead wire 5 shall be removed from the metal terminal 13, and shall be corrected in the shape of a straight line.

[0014]

And when a new short arc metal halide lamp was adjusted and combined, using again the reflecting mirror which removed the short arc metal halide lamp, and short arc metal halide lamp equipment was created and having been used as the light source of liquid crystal projector equipment, a problem was not produced at all but it was checked that a reflecting mirror is effectively reusable.

[0015]

in addition -- although the above-mentioned example showed what was made into bond strength 25kgf - 35kgf extent of adhesives -- bond strength -- 7 or less kgves -- with a screw -- there is a possibility that a lamp may separate from a reflecting mirror in case an external terminal is bound tight with a nut to a mouthpiece, and when bond strength is 40 or more kgves, in case a lamp is removed from a reflecting mirror, there is a possibility that a reflecting mirror may be damaged. Therefore, it is appropriate for the bond strength of adhesives to set it as the range of 7kgf-40kgf.

[0016]

[Effect of the Device]

Since according to this design it forms in the shape of a taper which was formed in the pars basilaris ossis occipitalis of a reflecting mirror and which spreads a hole toward the opening side of a reflecting mirror by attaching and was made to carry out connection immobilization of the lead wire with a pressure welding mechanical to a terminal block as explained based on the example above, the short arc metal halide lamp which saw the end of life can be removed more easily than a reflecting mirror, and it becomes possible to reuse an expensive reflecting mirror easily.

TECHNICAL FIELD

[Industrial Application]

About the short arc metal halide lamp equipment used as the light source of the liquid crystal projector equipment which has a liquid crystal panel, this design removes a lamp from a reflecting mirror after the life of a lamp, and is related with the short arc metal halide lamp equipment which enabled it to reuse a reflecting mirror.

[0002]

PRIOR ART

[Description of the Prior Art]

In recent years, it is in fashion using the liquid crystal projector equipment using the liquid crystal panel and optical system of an active matrix to enjoy the image of a big screen simple. As the light source of this liquid crystal projector equipment, short arc metal halide lamp equipment is becoming in use from the descriptions, like the goodness of that color reproduction nature, the height of luminous efficiency, and a color temperature can be chosen freely as compared with a tungsten halogen lamp or a xenon lamp.

[0003]

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[0005]

EFFECT OF THE INVENTION

[Effect of the Device]

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TECHNICAL PROBLEM

[Problem(s) to be Solved by the Device]

By the way, in short arc metal halide lamp equipment equipped with the reflecting mirror of the above-mentioned configuration, in order to measure reuse-ization of a resource in recent years, a lamp is removed from a reflecting mirror after the life of a lamp, and the attempt which reuses an expensive reflecting mirror is made.

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[0008]

OPERATION

[Means for Solving the Problem and its Function]

the wire which drew this design to the both ends of a short arc metal halide lamp in order to solve the above-mentioned trouble -- with a screw -- lead wire was connected with the mouthpiece and it prepared in the pars basilaris ossis occipitalis of a reflecting mirror -- attaching -- a hole -- with a screw -- a mouthpiece -- fixing A reflecting mirror is attached so that a short arc metal halide lamp may be surrounded, in the short arc metal halide lamp equipment which it comes to connect with the terminal block which prepared lead wire in the outside of a reflecting mirror, said installation hole prepared in the pars basilaris ossis occipitalis of a reflecting mirror is formed in the shape of [which spreads toward the opening side of a reflecting mirror] a taper, and connection immobilization of said lead wire is carried out with a pressure welding mechanical to a terminal block.

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[0010]

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[0016]

DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1] It is the sectional view showing one example of the short arc metal halide lamp equipment concerning this design.

[Drawing 2] It is the perspective view showing a part of modification of the example shown in drawing 1 .

[Drawing 3] It is the outline block diagram showing the liquid crystal projector equipment using short arc metal halide lamp equipment.

[Drawing 4] It is the sectional view showing the example of a configuration of conventional short arc metal halide lamp equipment.

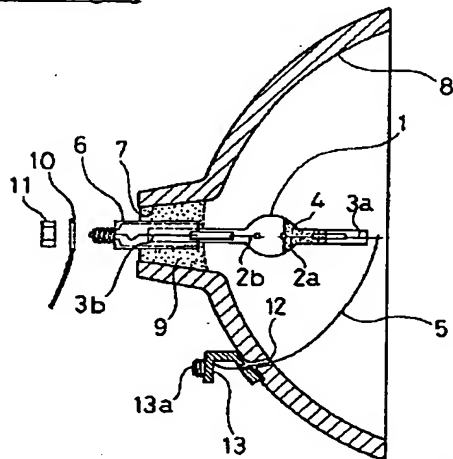
[Drawing 5] It is the sectional view showing other examples of a configuration of conventional short arc metal halide lamp equipment.

[Description of Notations]

- 1 Short Arc Metal Halide Lamp
- 2a, 2b Electrode
- 3a, 3b Wire
- 4 Incubation [Reflection-cum-] Film
- 5 Nickel Lead Wire
- 6 with Screw -- Mouthpiece
- 7 Installation Hole
- 8 Reflecting Mirror
- 9 Minerals Adhesives
- 10 External Terminal
- 11 Nut
- 12 Stoma
- 13 Metal Terminal
- 14 Bolting Screw

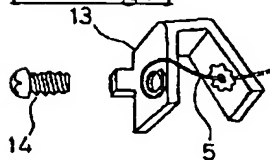
DRAWINGS

[Drawing 1]

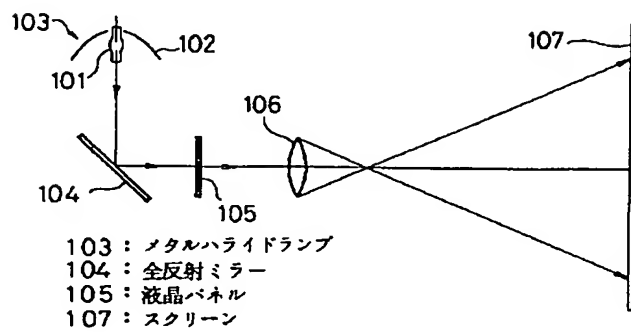


- | | |
|-----------------------|------------|
| 1 : ショートアークノタルハライドランプ | 9 : 無機質接着剤 |
| 5 : ニッケルリード線 | 10 : 外部端子 |
| 6 : ネジ付口金 | 11 : ナット |
| 7 : 取り付け孔 | 13 : 金属端子 |
| 8 : 反射鏡 | |

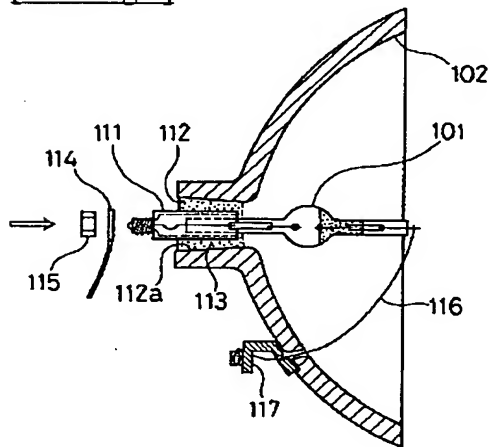
[Drawing 2]



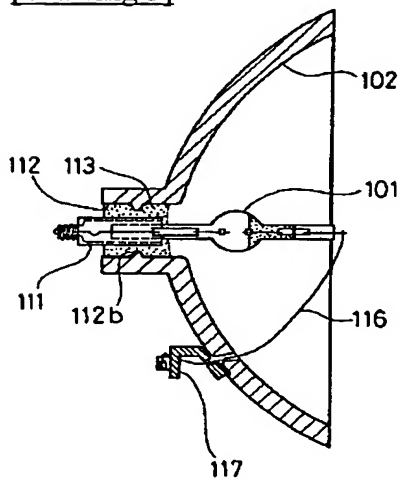
[Drawing 3]



[Drawing 4]



[Drawing 5]



[Translation done.]